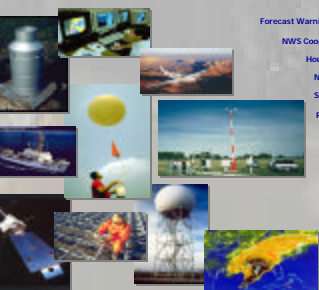




NCDC Data Management

Data Sources



- Forecast Warning Analysis
- NWS Coop Observers
- Hourly Airways
- NCEP Charts
- Ship Reports
- Rocketsonde
- Radiosonde
- Storm Data
- NEXRAD
- Satellite
- Aircraft
- Profiler
- ASOS
- CRN

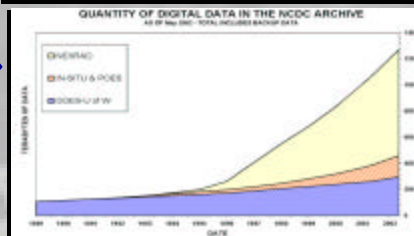
Digital Media & Direct Electronic transfer

- Direct conversion of machine-readable paper charts & tapes
- High capacity magnetic disks
- Magnetic tape
- Optical disks
- NOAAPort
- FTP

Non-digital Media

- Original forms & manuscripts
- Publications
- Autographic charts & rolls
- Punched paper tapes
- Paper copies

Digital Archive



The NCDC digital data archive equaled 1.3 petabytes, or 1300 terabytes, in 2002. All incoming digital data, as well as those data being migrated from old media, are being stored on the Hierarchical Data Storage System (HDSS), a robotics mass storage system. Electronically delivered radar and satellite data are automatically archived to the robotics system and inventoried within minutes of receipt.



End-user query tools

Traditional Media



Traditional magnetic and optical storage media require a vast amount of storage space and have significant library management overhead. While data are electronically readable, operators must manually load the storage medium onto a drive before it can be accessed.



HDSS Robotic Storage System



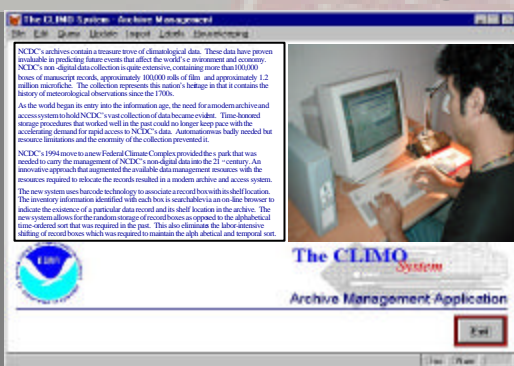
The IBM Hierarchical Data Storage System (HDSS) robotics library is the focal point of NCDC's digital data library. Multiple tape drives and robotically managed storage cabinets are addressable as a single, massive storage system. Thus, the end-user need not know what tape data is stored on in order to access it.

When a tape storage cabinet is full, additional cabinets may be added to increase capacity by several hundred tapes. Several different tape technologies are currently in use, with roughly 4000 80 gigabyte (GB) 3590 tapes coexisting seamlessly with newer 200 GB Linear Tape Open (LTO) tapes.

Frequently used data is automatically moved from tape to cache on high speed magnetic disc. Current cache capacity is 700 GB, and will increase to more than 5000 GB (5 terabytes) in the future.



Non-Digital Archive



Modern Archive/Access System for NCDC's Non-Digital Data

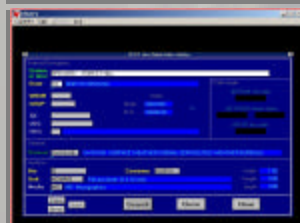


Non-Digital Data Volume

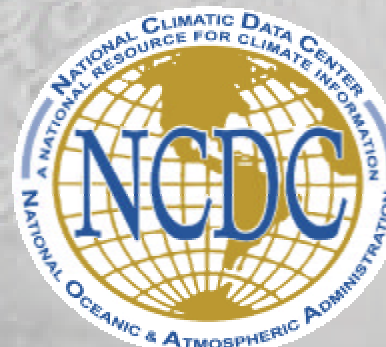
Manuscript / Autograph
200 Million Pages* - 37,878 Miles
(1.5 times around the earth)
*In process of being imaged and archived on HDSS robotics system

35mm & 16mm Film
125,120 Rolls = 2,340 Miles
(Washington D.C. to Los Angeles)

Microfiche
1.2 Million Pages = 114 Miles
(Washington D.C. to Philadelphia)



End-user query tools



Imaging of non-digital holdings

NCDC is working with contractors to convert paper and film holdings to digital images. While some documents will be maintained in original form, digital imaging increases accessibility and guarantees long-term viability of the data.